

## Patent Abstracts of Japan

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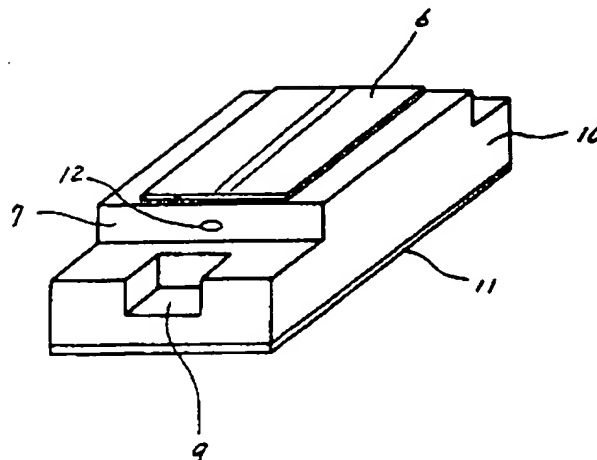
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TITLE : SEMICONDUCTOR LASER ELEMENT



ABSTRACT : PURPOSE: To prevent the disturbance of the characteristics of luminous radiation by further forming a recessed section so that laser beams projected near a reflecting surface 7 in a semiconductor laser to which the reflecting surface for an optical resonator is shaped are not interrupted by etching, etc.

CONSTITUTION: A P-side electrode 6 is formed to a semiconductor crystal 10 containing double hetero-structure, and a reflecting surface 7 for a resonator is prepared through ion-beam etching. A photo-resist mask is shaped through photolithography, and a recess in 15 $\mu$ m depth is formed. A distance between the reflecting surface and the recess 9 is brought to approximately 3 $\mu$ m after etching. The back is ground, and etched, an N-side electrode 11 is shaped, and lastly approximately the central section of the recess 9 is scribed, thus preparing a semiconductor laser chip. According to the structure, laser beams emitted from a beam outgoing section 12 are introduced to the outside without receiving noxious reflection, etc.

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